entific merit meet such an instant demand, and all science benefits by the diffusion of such a work among the general reading public. Although the text of the new edition is essentially that of the first, the occasion has been used to correct the typographical errors that marred the beauty of the first edition, and to remove certain ambiguities of expression which had escaped the editor's notice in the preparation of that edition. A note is added on p. 575 explaining that the species used by de Vries as "Oenothera biennis" is not *Oe. biennis* as it is known to American botanists, and has not yet been found in nature in America. The insertion of an excellent photogravure of the author adds much to the artistic and sentimental value of the book, and the publishers are to be congratulated on the pains they have taken to make this second edition even more valuable and attractive than the first. There can be no doubt that it will continue to have a large circulation and to diffuse scientific knowledge of advanced character beyond the limits usually reached by scientific works.

GEORGE HARRISON SHULL.

Pfeffer's Physiology of Plants*

This volume, published on March 14, 1906, marks the completion of Professor Ewart's English translation of Pfeffer's *Pflanzenphysiologie*. Volume I, dealing with metabolism, appeared in 1900, and Volume II, on growth, reproduction and maintenance, in 1903.

Volume III treats of movement; the production of heat, light and electricity; and the sources and transformations of energy in the plant. The sense of the original and difficult German has been admirably preserved in the English rendering, though it is not always easy to tell just where the author leaves off and the translator begins.

In the matter of style, the text usually gives universal for partial negatives, as, *e. g.*, on page 307, where it is stated that, "All

* Pfeffer, W. The Physiology of Plants. A Treatise upon the Metabolism and Sources of Energy in Plants. Second fully revised edition, translated and edited by Alfred J. Ewart. Vol. III. Pp. viii + 451. *f. 1–70.* Oxford: At the Clarendon Press. 1906.

motile organisms do not show shock reactions," etc. And so throughout the book, though the meaning is usually obvious, this illogical form of expression is much too common in scientific writings.

Close adherence to accurate terminology frequently arrests the attention of one accustomed to looser nomenclature. Thus Darwin's term "nictytropic" becomes *nictynastic*. The suffix "tropic" (tropism) is rigidly reserved for responses to unilateral stimuli, while, for responses produced by diffused stimuli, the ending "nastic" (nasty) is used.

Chapter I is a general discussion of movement. Chapter II is entitled Movements of Curvature. Under this head are discussed autonomic (*i. e.*, spontaneous) movements; twiners and climbers; movements due to mechanical and chemical stimuli; and aitionastic (photonastic, thermonastic, and hydronastic) curvatures; Chapter III is given to tropic movements; Chapter IV to locomotory and protoplasmic movements; and Chapter V to the production of heat, light and electricity. The sources and transformations of energy in the plant are discussed in the sixth and last chapter.

An appendix is devoted to "some important facts not mentioned in the first two volumes" and to "a summary of the more recent literature." The historical résumés, which were a feature of the first two volumes, also enhance the usefulness of this one.

Besides the intrinsic value of the text itself, the copious references throughout serve to put one *en rapport* with most of the existing literature on the subject. The American reader can hardly help noticing the absence of citations of the work of his own countrymen, scarcely more than three or four American authors being referred to in the bibliographies. This is due partly to oversight of existing literature, and partly to lack of productive scholarship in America. The bibliography, like most others in biologic science, is a tribute to German scholarship.

One's attention is somewhat jarred by reading on pages 64–65 that "A tickling sensation is awakened in the epidermis of man and of tendrils," etc.

It is difficult, however, to make adverse comment because the volume offers so few opportunities.

The translator's emphatic position against unnecessary multiplication of terms will meet with a warm welcome from most readers. The case is made especially strong by such suggestions as "physieclexis," for natural selection; "plaster-of-Paris-cleistogamy," in connection with thermo-, photo-, and hydrocleistogamy; and "paralleloheliotropocampylostrophismic (tortismic) irritability" to describe an organ that "partly twists and partly curves towards the light."

The sincere thanks of all English and American botanists are due to Professor Ewart for making the work accessible in their own tongue. The most comprehensive, and doubtless, also, the most authoritative treatise on the subject in German, this work in its translation easily assumes a similar position in botanical literature in English. It is a monument alike to translator and to author.

C. STUART GAGER.

PROCEEDINGS OF THE CLUB

MAY 8, 1906

The meeting of May 8, 1906, was held at the American Museum of Natural History at 8 P. M. President Rusby was in the chair; 15 persons were in attendance.

After the reading and approval of the minutes of the previous meeting, the following persons were nominated for membership: Miss Elizabeth Billings, 279 Madison Avenue, N. Y. City; Charles H. Bissell, Southington, Ct.; Dr. Louise M. Dithridge, 42 Lorillard Place, Bronx; Prof. W. A. Kellerman, Ohio State University, Columbus, Ohio; Adolph Koenig, Edgewood Park, Pa.; Arthur N. Leeds, 3221 N. 17th Street, Philadelphia, Pa.; J. Schneck, Mt. Carmel, Ill.; Prof. H. M. Stephens, Dickinson College, Carlisle, Pa.; Dr. Edmund Bronk Southwick, Central Park, N. Y. City.

The secretary cast the ballot of the Club, electing these persons to membership.